

Patent Claims

1. Tube motor (1) ...with an electric motor drive (3) with a drive shaft (8) located in a gear box (2), with a reducing gear (29) with a driven shaft (30) coupled with the drive shaft (8) via a gear input shaft and, for rotary securing of the driven shaft (30) especially when the drive (3) is disengaged, with a wrap-spring brake (27) working against the gear box (33), while the drive shaft (30) and the gear input shaft work together with the wrap-spring brake (29), characterized in that, mounted free of torsion on the gear box (33) and positioned between the wrap spring (32) and the gear box (33) is an annular element (34), which diverts into the gear box (3) a moment of torsion introduced by the drive shaft (30).

2. Tube motor (1) according to Claim 1, characterized in that inner side of the gear box has an inner toothed (59) and the jacket surface of the annular element (34) facing toward the inner side of the gear box has a corresponding inner toothed (59).

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3. Tube motor (1) according to Claim 1 or 2, characterized in that the annular element (34) can be locked into the gear box (33).

4. Tube motor (1) according to one of the preceding claims, characterized in that the annular element (34). As locking hooks or locking indentations on its periphery, which can be engaged together with locking indentations or locking hooks located on the inner side of the gear box.

5. Tube motor (1) according to one of the preceding claims, characterized in that the reducing gear has a planetary gear drive (29), while the planetary gear drive (29) has a sun wheel (28) as its gear input shaft.

6. Tube motor (1) according to Claims 2 and 5, characterized in that the planetary gear drive (29) has planets (58), which roll off on the inner toothed (59) on the inner side of the gear box.

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7. Tube motor (1) according to Claim 5 or 6, characterized in that the side of the sun wheel (28) facing toward the wrap spring (32) has several, especially two, circular lands (48) curved in cross section, around which the wrap spring (32) is positioned.

8. Tube motor (1) according to Claim 7, characterized in that one land (48) has a shoulder (49) for receiving the one end of the wrap spring (32) oriented on the longitudinal axis of the tube motor (1).

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9. Tube motor (1) according to Claim 7 or 8, characterized in that the side of the driven shaft (22) facing toward the wrap spring (32) has several, especially two, receiver lands (39), which engage with a defined play in the free spaces between the lands (49) of the sun wheel (28).

10. Tube motor (1) according to Claim 9, characterized in that one receiver land (39) has a shoulder (42) for receiving the other end of the wrap spring (32) oriented on the longitudinal axis of the tube motor (1).

11. Tube motor (1) according to Claims 5-10, characterized in that the sun wheel (28) has a core (52).

12. Tube motor (1) according to Claim 11, characterized in that the core (52) has a hexagonal cross section or a Torx cross section.

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13. Tube motor (1) according to one of the preceding claims, characterized in that a cogwheel gear (12, 13, 22) is positioned between the drive (3) and the drive shaft (22).

14. Tube motor (1) according to Claim 13, characterized in that the drive shaft (8) of the drive (3) has an especially obliquely toothed pinion (12), which drives at least one cogwheel (13) running axially to the drive shaft (8).

15. Tube motor (1) according to Claim 14, characterized in that at least one cogwheel (13) is rotatably mounted on a cogwheel axis (14) and that the cogwheel axis (14) is located on the side of the gear box (2) facing toward the wrap-spring brake (29).

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16. Tube motor (1) according to Claim 14 or 15, characterized in that at least one cogwheel (13) has a second reducing stage (19), which is designed as a pinion and drives a ring gear (22).

17. Tube motor (1) according to Claim 14, 15 or 16, characterized in that two symmetrically arranged cogwheels (13) are present, each of which has a second reducing stage (19) and drives a ring gear (22).

18. Tube motor (1) according to Claim 16 or 17, characterized in that the side of the ring gear (22) remote from the drive (3) forms the drive shaft working together with the wrap-spring brake (32) and the gear input shaft.

19. Tube motor (1) according to one of the preceding claims, characterized in that the individual components of the tube motor (1) can be locked together for the installation of the tube motor (1).

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//Append the 12 figures, which need no translation.//